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ASIA EDITION

Scientists sequence mitogenome of core crop pest

April 7, 2014 | News | By BioSpectrum Bureau



Singapore: Phytophagous ladybird beetle, Henosepilachna pusillanima (Mulsant), synonym of Epilachnadodecastigma (Wiedemann), is one of the important pest species of cucurbitaceous crops in India. The complete mitochondrial genome of H. pusillanima has been sequenced by a team of scientists comprising Dr G T Behere, Dr D M Firake, Dr N S Azad and Dr S V Ngachan of Division of Crop Improvement (Entomology), ICAR-RC for NEH region, Umiam, Meghalaya.

The size of complete mitochondrial genome of the H. pusillanima was determined to be 16216-bp long and circular in nature (Fig. 1) and which has a total of 13 protein coding genes (PCGs), 22 transfer RNA (tRNA) genes, 2 ribosomal RNA (rRNA) genes and one control region (A+T-rich region). The size of control region was estimated to be 1690-bp.

The gene arrangement and orientations of assembled mitogenome were identical to the reported coleopteran insect species including predatory ladybird beetle Coccinella septempunctata L. The complete assembled and annotated genome has been submitted to the NCBI vide Genbank Accession Number: KJ131489. This would be the first completely sequenced coleopteran genome from the beetle subfamily Epilachninae and also the first insect mitogenome from India.